IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Smith *et al.*
Serial No.: 10/786,466
Filed: February 25, 2004
Confirmation No. 9331
For: **FIRE RESISTANT CONSTRUCTION**

Examiner: J. Chapman
Art Unit: 3635

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR §1.132
OF ALLEN KENNA STEWART, AIA

I, Allen Kenna Stewart, AIA declare that:

1. I have been granted the degree of Bachelor of Science from the College of Architecture of the Georgia Institute of Technology.

2. I have 17 years of experience as a registered architect.

3. I maintain my architectural license with the State of Georgia (#RA007727).

4. I maintain memberships with two professional organizations: The American Institute of Architecture (#30119528) and the International Code Council (#5319308).

5. My firm is Avatar Architects, LLC, ("Avatar") whose principal place of business is located at 4349 Iroquois Trail, Duluth, GA, 30096. I have been sole proprietor of this company for 4 years.

6. GreenFiber USA, LLC ("GreenFiber") is a former client of Avatar. GreenFiber has asked me to attest to certain industry standards, and to offer my opinion on matters related to the fire wall described in patent application 10/786,466. These standards and opinions are set forth in this declaration. I am willingly acting as a declarant, have not been subject to any undue influence, and fully agree with the substantive content of this declaration. I am not being compensated for contributing to, or signing this Declaration.

7. The fire wall of the aforementioned patent application is designated by Underwriters Laboratories, Inc. ("U.L.") as rated wall assembly U370, and is generically referred to as the "75% wall".

8. The following is well known in the building industry:

A. U.L. assemblies are considered minimums. That is, the materials used, structure provided, spacing of structural members, means of attachment, etc. are the minimum necessary to meet and pass the testing criteria.

B. All assemblies are tested at some percentage of their ultimate load-bearing capacity so that a safety factor or "margin of error" can be built into any design. This design load, developed by extensive testing results within the lumber industry, ensures that no assembly is stressed to capacity if the design professional adheres to the published guidelines.

C. When an assembly is submitted for testing to U.L. or some other testing entity, the materials used, composition of the assembly and assigned load become part of the published description if the test is successful. Once the assembly has successfully passed the test, the assembly description, materials, and performance aspects such as load bearing ability are known and available

for use. However, these specifications must be followed exactly for the constructed wall to receive approval from building code inspectors.

D. A builder is normally not allowed to make changes to a certified assembly, unless the change is approved by the Code Official, because deviating from the specifications of the assembly may affect overall performance. This means that there is a premium value attached to the details of tested walls.

E. A wall assembly with a 2-hour rating for 47.5% of the full design load would not be suitable for use in a dwelling with more than one level (for example a two-story, three-story or four-story dwelling) unless the assembly was made stronger and/or more fire resistant with supplemental structures and materials.

F. A wall assembly with a 2-hour rating for 75% of the full design load would be suitable for use in a multi-level dwelling without supplemental structures and materials.

9. It is my opinion that:

A. The construction of multi-level dwellings is commonplace. Accordingly, there is a substantial need for wall assemblies suitable for multi-level dwellings. A wall assembly suitable only for a single-level dwelling would be considerably less useful in the industry, and would probably cost about the same price to manufacture as a multi-level dwelling wall assembly. For that reason, multi-level dwelling walls are more versatile and commercially valuable.

B. It requires additional materials and labor to supplement single-level dwelling wall assemblies (i.e. 47.5% walls) with additional structure to make them suitable for use in multi-level dwelling construction. For that reason, multi-

level dwelling walls (i.e. 75% walls) are preferred by engineers, designers and builders.

C. For the reasons discussed above, I consider the difference between a 47.5% wall and a 75% wall to be critical, with the latter providing substantial structural and economic benefits over the former.

10. By signing my name below I declare that all statements made in this document of my own knowledge are true, and all statements made on information and belief are believed to be true. I further declare that these statements are made with the knowledge that willful, false statements are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code and that such willful, false statements may jeopardize the validity of the application or any patent issuing on the application.

Respectfully Submitted,

ALLEN KENNA STEWART, AIA

3 DECEMBER 2008
DATE